

Application No. 10/521,875  
Amendment Dated: December 23, 2009  
Reply to Office Action of: September 23, 2009

### **REMARKS/ARGUMENTS**

Claims 1, 4, 12, 14 and 21 are amended. Claims 2, 7-11, 13, 15-19 and 23 are canceled. Upon entry of the amendments, claims 1, 3-6, 12, 14 and 20-22 remain pending for consideration.

Support for the amendments to independent claims 1, 4 and 14 resides at least in claim 19, Figs. 7, 8A-8D, 9 and 10, paragraphs [0066]-[0069] and paragraphs[0114]-[0115] of the specification.

### **35 U.S.C. §112 REJECTIONS**

Claims 13 and 23 were rejected under 35 U.S.C. §112, second paragraph. Applicant has deleted claims 13 and 23.

Claims 15-17 were rejected under 35 U.S.C. second paragraph. Applicant has canceled claims 15-17.

### **35 U.S.C. §102 REJECTIONS**

Claims 1-3, 9, 14-18, 20 and 21 were rejected as being anticipated by Earle, U.S. Patent No. 5,975,751.

Applicant has amended the independent claims 1 and 14 to further specifically describe the valve-like closure means. Claim 1 now recites, *inter alia*, as follows:

“The closure means comprises a rotatable ball-like tap with a passage therethrough wherein the tap is moveable from the first

position whereby flow of cement between the mixing chamber and the dispensing chamber is prevented and a second position whereby cement can flow from the mixing chamber to the dispensing chamber.”

Independent claim 14 now recites, *inter alia*, as follows:

closure means comprises a rotatable ball-like tap with a passage therethrough located between the mixing chamber and the dispensing chamber and being moveable between a closed position whereby flow of cement from the mixing chamber to the dispensing chamber is prevented and an open position whereby cement can flow from the mixing chamber to the dispensing chamber.

It is very clear that the Earle reference does not disclose, teach or suggest the foregoing closure means comprising a rotatable ball-like tap with a passage therethrough, nor does Earle contemplate a closure means which requires a conscious and specific actuation by the user of the apparatus to change the functional position of the closure means.

According to the Examiner, one example of the closure means in Earle is element 431, which is a U-shaped trapdoor. The U-shaped trapdoor 431 (as set forth in Earle column 16, lines 17-19) is designed to form a friction seal within the U-shaped cement port so that the trapdoor is normally in a closed position. The trapdoor 431 operates (as further described in Earle column 16, lines 32 et seq.), wherein the vacuum in the second conduit along with the weight of the bone cement in the mixing bowl causes the trapdoor to rapidly swing open and release the contents of the mixing bowl through the discharge tube into one or more of the bone cement cartridges.

The Examiner's additional citations for the Earle closure means is a piston which, in a first position, is located at the top of the dispensing chamber as illustrated in Figs. 15-18, and (with respect to claim 19), the Earle closure means is identified as elements 154, 158, 431. Element 154 is a liner plug. Element 158 is a plug which, according to Earle column 13, lines 3 et seq., is held in place by a vacuum which is applied during the mixing process and further at lines 12 et seq.:

“When the mixing of the cement is complete, the vacuum is released and positive pressure is applied to the inside of the liner. This positive pressure forces the plug out the liner allows the cement to flow from the liner into the cartridge as attached to the bottom of the mixer.”

None of the structures cited for a corresponding closure means in the Earle reference take the form of a rotatable ball-like tap with a passage therethrough. None of the closure means cited by the Examiner require a conscious actuation by the apparatus user. Each of the cited Earle closure means are essentially moved from a position wherein the flow of cement between the mixing chamber and the dispensing chamber is prevented to a position wherein cement can flow from the mixing chamber to the dispensing chamber are accomplished by essentially a passive type interaction, i.e., in conjunction with applied vacuums, pressures or interactions with the cartridge. Furthermore, Earle does not disclose an actuator for actuation by the user to operate the closure means (as would be required by a ball-like tap with a

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passage therethrough), nor suggest or disclose sufficient headroom for the ball-like tap now recited in the claims.

In the initial Action, the Examiner cited Stump, U.S. Patent No. 3,450,388 for the disclosure of a "ball valve 131". However, the Examiner will appreciate that there is no teaching, suggestion or disclosure whatsoever in the Earle reference as to a ball-like tap with a passage therethrough since to change the position from a closed to an open position would require active interaction on the part of the apparatus user to make the change. Thus, not only would one of ordinary skill in the art not look to substitute the Stump ball valve into the Earle-type apparatus, but such a modification would be clearly contrary to the principle of operation in the type of apparatus described and disclosed in the Earle reference.

Claim 3, which depends on claim 1, is patentable for the reasons advanced for claim 1.

Claims 20 and 21, which depend on amended claim 14, are patentable for the reasons previously advanced for claim 14.

Claims 4 and 5 were rejected under 35 U.S.C. §102(b) as being anticipated by Foster, International Patent Application No. WO01/56514.

Applicant has amended independent claim 4 to further recite, *inter alia*, the feature of:

a rotatable tap disposed between said mixing chamber and said dispensing chamber wherein in a first rotated position, the outlet aperture and the inlet aperture being in cement flow

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communication and a second rotated position, cement flow communication between the outlet aperture and the inlet aperture is prevented.

Nowhere in the Foster reference is there any disclosure, teaching or suggestion of a rotatable tap, nor the feature of any valve-like function between the mixing chamber 1 and the dispensing chamber 2 as performed by the recited tap. Likewise, there would be no proper teaching for combining the Foster reference with the Stump reference disclosing a ball valve since there is essentially no valving relationship described in the Foster reference between the mixing and dispensing chambers.

### **35 U.S.C. §103**

Claim 4 was also rejected under 35 U.S.C. §103(a) as being unpatentable over the Earle and Foster. The applicability of this rejection to amended claim 4 cannot be properly maintained for the reasons previously advanced with respect to the deficiencies of the Earle and Foster references.

Claims 5, 6, 12 and 22 which depend directly or indirectly on amended claim 4 are patentable for the reasons advanced for amended claim 4.

### **CONCLUSION**

For the foregoing reasons, all claims in the application as amended are in condition for allowance. Accordingly, favorable reconsideration by the Examiner is respectfully solicited.

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